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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,314	03/06/2002	Toshio Komatsu	220166US0	7148

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EXAMINER	
WALKE, AMANDA C	

ART UNIT	PAPER NUMBER
1752	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/091,314	KOMATSU ET AL.	
	Examiner	Art Unit	
	Amanda C Walke	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (4,707,433 or JP 58-030746 in view of its English language abstract) in view of Uchikawa et al (6,265,116) or Komano et al (6,010,824).

Ogawa disclose a water-soluble photosensitive material comprising a dichromate photosensitizer and a gelatin having a molecular weight of about 5,000 to 30,000 that is preferably employed in a method of producing a color filter. As can be seen in the examples, the composition additionally comprises a solvent and water. The gelatin meets the instant claim limitations for component B, which is taught by the instant specification as having an average molecular weight of about 25,000 to 35,000 (see page 4). The reference employs both lime processed and acid processed gelatins. Also suitable for use are glue, casein, and polyvinyl alcohol (see column 1, lines 14-20).

Uchikawa et al disclose a process for producing a color filter comprising a photosensitive resin. The resin comprises a polymerizable compound, a polymerization initiator, a solvent, and other components such as a surfactant. The solvents taught to be suitable for use in the invention of the reference include ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, propylene glycol monomethyl ether, ethylene glycol monomethyl ether acetate, ethanol, ethylene

glycol, diethylene glycol, and glycerol. All of these solvents are taught to be equivalent (column 6, lines 17-50).

Given the teaching of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Ogawa choosing to replace the ethanol solvent with anyone of the other solvents listed as being equivalent for use by Uchikawa et al, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

Komano et al disclose a photosensitive resin composition that may be employed in a method of manufacturing a color filter comprising a polymeric binder, an ethlenically unsaturated monomer, a polymerization initiator, and a solvent. The solvents taught to be suitable for use in the invention of the reference include ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, propylene glycol monomethyl ether, , ethanol, ethylene glycol, diethylene glycol, and glycerol. All of these solvents are taught to be equivalent (column 17, lines 28-47).

Given the teaching of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Ogawa choosing to replace the ethanol solvent with anyone of the other solvents listed as being equivalent for use by Komano et al, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

According to the examples of Ogawa, it appears that the component C (the solvent) is added in an amount falling within the instant claim limitations (claims 2 and 3). With respect to the instant claim 4, it is noted that the instant claims are drawn to a photosensitive resin composition, not a method. Therefore, the claim is a product by process claim, and the composition simply has to be *capable* of being exposed in the claimed manner . Given that the

composition of the reference comprises mainly the same ingredients as that of the instant specification, it is the position of the examiner that the material of the reference is capable of being exposed in that manner and thus meets the instant claim limitations.

M.P.E.P. § 2113:

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)... "The Patent Office bears a lesser burden proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessman*, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Umehara et al (5,948,592).

Ogawa has been discussed above, but is silent with respect to the addition of a preservative.

Umehara et al disclose a water-soluble photoresist composition suitable for use in the manufacture of color filters comprising a casein component and a dichromate photosensitive agent. The reference teaches that it is conventional to add preservatives to such compositions (column 4, lines 5-18).

Given the teaching of the Umehara et al reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Ogawa choosing to add a preservative as it is well known in the art to do so, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of Curtis et al (4,499,176).

Ogawa has been discussed above, but is silent with respect to the addition of a non-ionic surfactant.

Curtis et al disclose a photosensitive composition comprising a photopolymerizable monomer, a water- soluble photoinitiator, a water-soluble colloid (PVA or gelatin), water, and a water-miscible solvent (ethanol, ethylene glycol monomethyl ether) that may be used to make a color filter. The references teaches that a preferred additive is an non-ionic surfactant to improve the stability of the composition.

Given the teaching of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Ogawa choosing to add a non-ionic surfactant to improve the stability of the compositon, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

5. Claims 1-5, 7, 9-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mino et al (5,059,509) in view of Uchikawa et al (6,265,116) or Komano et al (6,010,824).

Mino et al disclose a multicolor image-forming method comprising a water-soluble polymeric substance such as polyvinyl alcohol, gelatin, casein, or glue, an organic solvent, a sensitizer such as a bichromate, a surfactant, a pigment, and water. Example 1 of the reference employs a PVA having an average polymerization degree of 1,700-2,400 and a saponification degree of $\pm$ 98.5 %, which meets the limitations of the instant claim 7 and employs a non-ionic surfactant. While the reference teaches that any conventional organic solvent may be employed, the reference does not provide names of specific compounds.

Uchikawa et al disclose a process for producing a color filter comprising a photosensitive resin. The resin comprises a polymerizable compound, a polymerization initiator, a solvent, and other components such as a surfactant. The solvents taught to be suitable for use in the invention of the reference include ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, propylene glycol monomethyl ether, ethylene glycol monomethyl ether acetate, ethanol, ethylene glycol, diethylene glycol, and glycerol. All of these solvents are taught to be equivalent (column 6, lines 17-50).

Given the teaching of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Mino et al choosing to replace the ethanol solvent with anyone of the other solvents listed as being equivalent for use by Uchikawa et al, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

Komano et al disclose a photosensitive resin composition that may be employed in a method of manufacturing a color filter comprising a polymeric binder, an ethlenically

unsaturated monomer, a polymerization initiator, and a solvent. The solvents taught to be suitable for use in the invention of the reference include ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, propylene glycol monomethyl ether, ethanol, ethylene glycol, diethylene glycol, and glycerol. All of these solvents are taught to be equivalent (column 17, lines 28-47).

Given the teaching of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Mino et al choosing to replace the ethanol solvent with anyone of the other solvents listed as being equivalent for use by Komano et al, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

According to the examples of Mino et al, it appears that the component C (the solvent) is added in an amount falling within the instant claim limitations (claims 2 and 3). With respect to the instant claim 4, it is noted that the instant claims are drawn to a photosensitive resin composition, not a method. Therefore, the composition simply has to be *capable* of being exposed in the claimed manner. Given that the composition of the reference comprises mainly the same ingredients as that of the instant specification, it is the position of the examiner that the material of the reference is capable of being exposed in that manner and thus meets the instant claim limitations.

6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mino et al in view of Umehara et al.

The Mino et al reference has been discussed above, and while it teaches that casein may be employed as the water-soluble polymeric substance, it does not provide specifics about the casein. Additionally, while the reference teaches that other conventional additives may be added

to improve the properties of the material, the reference does not specifically mention a preservative.

Umehara et al disclose a water-soluble photoresist composition suitable for use in the manufacture of color filters comprising a casein component and a dichromate photosensitive agent. The reference teaches that it is conventional to add preservatives to such compositions (column 4, lines 5-18). The reference further teaches that the casein component may be an acid casein such as lactic casein, hydrochloric casein, and sulfuric casein, sodium caseinate, or calcium caseinate (column 3, lines 13-30).

Given the teaching of the Umehara et al reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Mino et al choosing to add a preservative as it is well known in the art to do so, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

Given the teaching of the Umehara et al reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Mino et al choosing to employ a casein which is an acid casein such as lactic casein, hydrochloric casein, and sulfuric casein, sodium caseinate, or calcium caseinate as they are conventionally employed caseins in such materials and are well known in the art to do so, with reasonable expectation of achieving a material that can be smoothly coated to form a layer.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kikuchi et al (5,807,657), Goldman (4,339,528 or 4,339,529), Itou et al (5,989,649), Matsuda et al (5,955,226) are cited for their teachings of similar materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda C Walke
Examiner
Art Unit 1752

ACW
February 18, 2004